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ABSTRACT

Twenty preservice teachers participated in this investigation to determine whether they would demonstrate a significantly increased level of enthusiasm after a training intervention on teacher enthusiasm and maintain the increased level of teacher enthusiasm three weeks after the termination of training. Eight variables were identified as descriptors of teacher enthusiasm--vocal delivery, eye movement, gestures, movements, facial expression, word selection, acceptance of ideas and feelings, and over-all energy. Data were gathered on the variables by videotaping the experimental and control groups prior to, immediately after, and three weeks after the completion of training. Training lasted for ten days, two hours per day, in which the various indicators of enthusiasm were discussed, teaching and demonstration of enthusiasm video-taped, and microteaching lessons in public schools performed. Analyses of the posttest videotape ratings by trained observers confirm that training in teacher enthusiasm significantly increased the observable level of enthusiasm and that trainees maintained a significantly increased level of enthusiasm three weeks after training. (Author/MJB)

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The Effects of Training for Enthusiasm
on the Enthusiasm Displayed
by Preservice Elementary Teachers

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Introduction

In 1973 Karl Massanari reported that many teacher training institutions had become part of the Competency Based Teacher Education Movement (CBTE). The main thrust of this Movement is the identification of effective teaching competencies that graduates of teacher education programs will be able to demonstrate when teaching. Since there is a strong emphasis on assessing and measuring these teaching behaviors it is important that each program identify an inclusive list of effective teaching competencies. Thus, the CBTE Program should attempt to incorporate those teaching behaviors that are difficult to measure; and to provide training; but appear to be effective in helping pupils to learn, or just "make sense" until research indicates otherwise.

Rosenshine and Furst, (1971) after reviewing about fifty studies which attempted to analyze the relationship between teacher behavior and pupil gain, identified eleven teacher characteristics that seemed to correlate with student gain. This review was criticized by Gall (1973) and Heath and Neilson (1974) because the studies failed to operationally define teacher behaviors and student achievement; and combined results of various studies without investigating the relationships among them. However the eleven identified teacher characteristics have some research evidence as to their relationship to pupil learning and appear to be more appropriate to study than teacher behaviors identified from other sources.

Of the eleven teacher characteristics designated by Rosenshine and Furst (1971), the third characteristic (listed in order of their "promise" and "best results") and the one selected for this study was teacher enthusiasm. The specific purpose of this research was to determine whether or not a training intervention in teacher enthusiasm could increase the level of teacher enthusiasm of preservice teachers. The staying power of the training was also studied.

The variables which were used to define and measure the level of a teacher's enthusiasm in a classroom were: vocal delivery, eyes, gestures, movements, facial expression, word selection, acceptance of ideas and feelings and overall energy.

The descriptors or indicators used to identify, measure, and communicate high teacher enthusiasm were:

1. vocal delivery.....great and sudden changes from rapid excited speech to a whisper, varied, lilting, uplifting intonations, many changes in tone, pitch.
2. eyes.....dancing, snapping, shining, lighting up, frequently opened wide, eyebrows raised, eye contact with total group.
3. gestures.....frequent demonstrative movements of body, head, arms, hands and face, sweeping motions, clapping hands, head nodding rapidly.
4. movements.....large body movements, swings around, changes pace, bends body.
5. facial expression.....appears vibrant, demonstrative, changes denoting surprise, sadness, joy, thoughtfulness, awe, excitement.
6. word selection.....highly descriptive, many adjectives, great variety.
7. acceptance of ideas and feelings.....accepts ideas and feelings quickly with vigor and animation, ready to accept, praise, encourage or clarify in a non-threatening manner, many variations in responding to pupils.
8. overall energy.....explosive, exuberant, high degree of vitality, drive and spirit throughout lesson.

These eight indicators were derived from three sources: studies on teacher enthusiasm as reported by Rosenshine (1970), observations and a pilot study of this research by the author, and the opinions of five teacher educators recognized in the field.

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METHOD

Subjects

Twenty preservice elementary teachers, who had registered to take a mini-course on Teacher Enthusiasm in the Spring of 1975 were the subjects for this study. The preservice teachers were unaware of their involvement in a research project. Because of the highly individualized character of the training procedure, they accepted the division of the class by random assignment (ten to the Experimental Group and ten to the Control Group).

The participating preservice teachers were in the second semester of a sequential CBTE program. They already had experienced teaching in a teaching center as part of their field work during the first semester, and during the second semester, when this study was conducted, they were also assigned to elementary schools and were actively teaching. Their teacher training program had changed from the traditional courses to seminars, lectures, workshops and mini-courses.

Design

The design used was the Pretest-Posttest, Control Group Design as described by Campbell and Stanley (1963) with an additional posttest. This design controlled for internal validity by a) random assignment of students to the Experimental and Control groups, and b) simultaneous video-taping of both groups and ratings by trained observers who neither knew which subjects were assigned to Experimental or Control nor the order of the tapes they observed and rated. External validity was enhanced since participants believed that this was a course towards credit for graduation and they accepted the requirements of an unspecified number of video-taped teaching episodes in

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a public school classroom. The Control Group received a modified training in teacher enthusiasm at the conclusion of the study.

Training

The training intervention lasted ten days with the subjects meeting daily for two hours with the instructor. It consisted of group instruction, peer teaching, and microteaching. During group instruction teacher enthusiasm was discussed and the eight descriptors identified from their highest to their lowest dimensions. Next, each subject was video-taped teaching and demonstrating teacher enthusiasm to his/her peers. Two peers rated this teaching based on a rating scale of the eight descriptors (low, medium, high) that defined enthusiastic teaching. Ratings were discussed after teaching.

Lastly, each subject taught a micro-teaching lesson in the public schools. This included pre-conferencing with instructor to review the behaviors that described an enthusiastic teacher; video-taping the preservice teacher teaching five to seven pupils for ten to fifteen minutes; conferencing for thirty minutes with the instructor to study the tape and provide reinforcement for those times when the teacher demonstrated teacher enthusiasm and recommendations for the purpose of increasing the level of enthusiasm; finally reteaching the same lesson to different pupils incorporating the recommendation from the conference.

Data Collection Procedures

Data were gathered on the eight selected descriptors of enthusiasm on each preservice teacher in both the Experimental and Control Groups over an eight week period. The week prior to training the teachers in both groups were video-taped teaching a 20-30 minute lesson of their choice in their

classrooms. During the second and third weeks, the Experimental Group completed the mini-course (training intervention) on teacher enthusiasm. During the week after training, the fourth week, all the preservice teachers (E and C Groups) were video-taped teaching a 20-30 minute lesson of their choice in their classrooms and again three weeks later to see if they could maintain an observable increased level of teacher enthusiasm.

Finally, two observers were trained to use the rater's tally sheet based on low, medium, high descriptors for each of the low inference variables that define teacher enthusiasm.

Instrumentation

Two instruments were developed by the researcher to measure teacher enthusiasm. The first was the rating form that described each of the eight variables as to the level of performance--low, medium, high. The second was the tally sheet where the observers recorded a teacher's performance in enthusiasm every two minutes by stopping the tape. The trained observers coded each of the sixty tapes without knowing either which preservice teachers were in the Experimental or Control Groups or the order of taping.

Five, six-hour training sessions were conducted before the two observers independently rated three teaching tapes for the purpose of computing inter-rater reliability. These tapes had not been viewed previously by the observers. Training was terminated when the reliability level of 0.90 was achieved. Checks were conducted at approximately every twelfth tape to see if this reliability was being maintained. No retraining was needed.

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RESULTS

The mean scores and standard deviations for the Experimental and Control Groups on the pretest, posttest I and posttest II are reported in Table 1. An inspection of this table indicated that the Experimental Group not only increased in its overall displayed level of teacher enthusiasm after training, but the subjects tended to display a greater degree of variance in their performances during the posttest. The subjects within the Control Group tended to resemble each other more and more in their displayed levels of teacher enthusiasm during the posttests.

The reliability coefficients for each of the eight variables for the twenty preservice teachers on the pretest and posttest I are recorded in Table 2. An analysis of Table 2 revealed the variables to be quite similar in reliability. On the pretest, the most reliable teacher behaviors were vocal, eyes, movements, acceptance of ideas and overall energy. The least reliable was word selection. Movements received what appeared to be perfect reliability. This happened because the preservice teachers displayed little or no teacher movements during this treatment period. In fact, only one subject received a total higher than the lowest possible total (10) and this subject, who was in the Control Group, received a 12. The reliability for the separate variables for posttest I ranged from .84 for gestures to .93 for eyes, word selection and overall energy. These high coefficients indicated that the descriptors were maintaining internal consistency across different testing periods and established the instrument's reliability.

To determine the effects of the training intervention in teacher enthusiasm, resultant enthusiasm scores were organized into a one between-

Table 1
Comparison of the Mean Scores and Standard Deviations in
Teacher Enthusiasm of the Experimental and
Control Groups

		<u>Pretest</u>		<u>Posttest I</u>		<u>Posttest II</u>	
		M	SD	M	SD	M	SD
<u>Variables</u>							
Vocal	E	13.3	5.5	35.0	5.6	29.0	6.2
	C	14.5	6.5	17.1	5.5	14.6	5.0
Eyes	E	12.6	5.0	33.3	8.4	26.2	9.7
	C	13.4	7.7	16.1	5.7	16.4	5.6
Gestures	E	14.1	5.5	26.8	9.8	18.8	5.7
	C	12.2	4.4	14.5	3.7	14.5	5.3
Movements	E	10.0	0.0	20.6	7.2	15.3	6.7
	C	10.2	0.6	10.7	1.2	10.5	1.1
Facial Expressions	E	12.4	4.2	32.8	10.4	17.4	11.3
	C	13.4	6.1	16.2	5.8	15.7	5.4
Word Selection	E	10.8	1.4	24.0	9.7	16.5	4.6
	C	10.5	1.6	10.6	1.3	10.6	1.6
Acceptance of Ideas	E	13.6	5.9	33.5	7.4	22.7	7.0
	C	13.7	6.4	16.9	4.8	16.1	6.6
Overall Energy	E	12.1	4.2	31.6	5.8	25.3	7.8
	C	12.4	3.9	12.9	4.4	13.7	5.3
Total Scores	E	98.9	26.6	238.6	54.5	181.3	47.1
	C	100.3	32.6	114.6	26.6	112.2	23.1

Table 2
Reliability Coefficients on the Variables
for Teacher Enthusiasm (N=20)

Variables ²	Pretest	Posttest
	Reliability _b Coefficient	Reliability _b Coefficient
Vocal Delivery	.85	.92
Eyes	.92	.93
Gestures	.61	.84
Movements	1.00	.91
Facial Expression	.66	.92
Word Selection	.43	.93
Acceptance of Ideas	.76	.88
Overall Energy	.71	.93

^aCases -- 200 -- based on totals of each variable combined E and C Groups

^bSplit - half coefficient stepped-up by Spearman-Brown formula

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one within-subjects mixed design and subjected to a fixed-effects analysis of variance. Relative to total enthusiasm scores, an examination of Table 3 indicated that there was a significant interaction, $F(2, 36) = 46.70, p < .001$. Because of this interaction, two-tailed t tests were used to determine which specific means differed significantly from each other. In the Experimental Group, there was a significant increase in the level of performance in teacher enthusiasm between the pretest and posttest I and the pretest and posttest II (See group means presented in Table 1). This latter analysis indicated that the Experimental Group was maintaining a significant increased level of enthusiasm three weeks after training. There was no important difference in the Control Group among the three testing periods.

To determine what variables contributed to this increased level of teacher enthusiasm, comparable analyses of variance were also computed on each of the eight descriptors. Results indicated that the interaction source was significant in all eight analyses. Two-tailed t tests were used to follow up these significant effects. An investigation of the t tests, reported in Table 4 demonstrated that all of the variables contributed to the overall increased level of teacher enthusiasm of the preservice teachers after training. A further study of Table 4 indicated that the Control Group did not vary significantly in each of the eight descriptors among the three testing periods. All of the variables were significant on posttest I of the Experimental Group. Seven of the descriptors showed evidence of a significant difference between the Experimental and Control Groups during posttest II, but at different levels of significance. Gesturing was not significantly different during posttest II.

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Table 3
Anova of Total Enthusiasm Scores
By Treatment Group and Testing Periods

Source	<u>df</u>	<u>MS</u>	<u>F</u>
<u>Total</u>	59		
<u>Between</u> <u>Groups</u>	19		
Enthusiasm, E & C	1	61,120.40	23.01***
Error	18	2,656.18	
<u>Within</u> <u>Groups</u>	40		
Tests	2	30,215.10	71.64***
Tests Enthusiasm	2	19,697.82	46.70***
Error	36	421.76	

***p < .001

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Table 4

Summary of Anova's and Post Hoc Tests on
the Eight Specific Descriptors of Enthusiasm

Descriptor	F-Tests		Post Hoc Tests				
	Experimental vs Control	Tests x Enthusiasm	Pretest	Posttest I		Posttest II	
Vocal Delivery	26.770***	27.053***	n.s.	E	C***	E	C***
Eyes	12.532***	13.712***	n.s.	E	C***	E	C***
Gestures	12.322***	4.627**	n.s.	E	C***	n.s.	
Movements	7.583***	6.683***	n.s.	E	C***	E	C*
Facial Expression	12.804***	10.074***	n.s.	E	C***	E	C**
Word Selection	26.798***	11.414***	n.s.	E	C***	E	C**
Acceptance of Ideas and Feelings	14.303***	13.275***	n.s.	E	C***	E	C*
Overall Energy	31.815***	23.038***	n.s.	E	C***	E	C***

*p < .05 in favor of Experimental Group

**p < .01 in favor of Experimental Group

***p < .001 in favor of Experimental Group

Returning to the analyses of overall enthusiasm scores, an explanation for the observable decrease in the Experimental Group's performance on Posttest II could be that the preservice teachers were leveling from the immediate effects of the training. The Control Group did not vary significantly from one treatment time to the next. It is possible the Experimental Group would not vary significantly if they were again observed in another six weeks. Recent research (Gabrys, 1977) tends to support this viewpoint. However, if over time the subjects continued to decrease in their observable level of teacher enthusiasm then this could have implications for reinforcement through inservice education.

Similar analyses were computed on each of the eight descriptors. A study of this data indicated that six of the descriptors did have an important decrease, thus contributing to the significant overall decrease in the performance of the Experimental Group between Posttest I and II. Movements and facial expression were the two descriptors retaining their significant increased level between Posttest I and Posttest II. However, the Experimental Group was maintaining a significant increase in teacher enthusiasm when compared to the Control Group three weeks after training.

Conclusions

Taken in its entirety, the data from the various analyses present a strong case that it is possible to train a preservice teacher to increase his/her level of teacher enthusiasm as described by the eight variables. The two-factor mixed designs, tests of simple effects, and t-tests of correlated means demonstrate that the overall performance of the Experimental Group significantly increased after training and that each of the variables contributed significantly to this increase. It should also be stressed that the rating instrument of the variables possesses sufficient reliability to

be used in studies of teacher enthusiasm involving comparisons of other preservice teachers.

In vocal, eyes, facial expression, and overall energy, the subjects displayed a greater variance within the group three weeks after training than immediately after training. In other words, some of the subjects remained fairly stable while others moved farther away. This could be due to either: 1) some of the preservice teachers gaining increased confidence while teaching and being able to demonstrate an observable increase in these variables, or 2) possibly some of the subjects observed these as their strong points when viewing their video-tapes and continued to increase. Plus, the converse could also be true. They could have observed that these were weak areas and were concentrating on increasing the displayed level of these four variables.

Another consideration could be that performance in these four teacher behaviors distinguish teachers one from another. Putting this another way would be to suggest that with some of the variables increased teaching experience results in teachers becoming more alike. An example of this was word selection where the standard deviation decreased 5.1. A possible conclusion is that the preservice teachers are learning the language of teachers and becoming more alike. The questions to consider are: is this acceptable in terms of the level of student achievement? Is the word selection used by teachers adequate? Certainly this topic needs further study.

Since the inter-rater reliability was .90, it appears that a high inference measure - teacher enthusiasm - could be more readily identified

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when it was described by increasingly lower inference variables--the eight descriptors of teacher behaviors. More refinement is needed on describing and measuring these categories.

Even though this was an experimental rather than a predictive study, the significance of the results seems to have implications for teacher preparation programs. While validation of the intervention is needed, the results of this study tend to support the use of the identified training intervention as an effective teacher training vehicle.

Implications

Additional studies could be undertaken with a particular focus on the training intervention developed in this study. It may be noteworthy to determine if a given teaching population could significantly increase its level of teacher enthusiasm by studying the variables and descriptors of teacher enthusiasm alone, peer teaching alone, or micro-teaching alone, or a combination of two of the above. Additional studies could be done with secondary preservice teachers and with inservice teachers.

It is important to recall that while further research is needed in this area, some studies indicated that increasing the observable level of enthusiasm in a teacher would result in an increase in the students' ability to achieve in the classroom. It is hoped this study will stimulate additional research, not only in studying the effect of the training in enthusiasm on teachers, but also the effect, if any, on the level of learning by the students in the classes of the teachers who had undergone this training.

Finally, it is important to note that this study does not conclude that all teachers should attain a specified level of teacher enthusiasm

to be effective. It is hoped that a minimal standard would be maintained. This researcher feels rather strongly that the average or three on the rating scale of the eight variables should be the minimal acceptable standard in teacher enthusiasm for teachers. It does, however, suggest that preservice elementary teachers are able to increase their displayed level of teacher enthusiasm through training, and there is substantial research to suggest that there is a correlation between enthusiasm and pupil achievement growth. An interesting step beyond the scope of this study would be to have preservice teachers, after undergoing the enthusiasm training intervention, receive training in awareness of when to modulate teacher enthusiasm with their students (individually or in groups) in an effort to provide a more effective learning environment for pupils.

Summary

This study accepted the premise that teachers displaying an acceptable to high level of teacher enthusiasm would have a better learning environment in their classes than teachers who do not. The preservice teachers during the training sessions were encouraged to display the highest level of teacher enthusiasm, even to exaggerate.

Demonstrating the highest level in each of the eight variables was stressed during training because the researcher was aware that when each subject would be teaching in a full classroom other variables would intervene to decrease the observable level of teacher enthusiasm. Thus, none of the trained subjects demonstrated such high teacher enthusiasm that they appeared to be "cheerleaders" in the classroom.

During the reteach of the micro-teaching sessions each subject was pleased by his/her observable improvement in teacher enthusiasm over their previous teaching during training. They stated that they felt the lesson went smoother and they received a better response from their pupils. This not only encouraged them but provided a "genuineness" in their display of teacher enthusiasm.

This researcher believes that if a teacher's main concern is for pupils to learn then he/she will use every competency he/she possesses to achieve that goal.

It is hoped that this study, while providing data about one pre-service training module, will stimulate further research and more systematic, more scientific approaches to the identification and training of preservice teachers in those teacher characteristics that seem to be effective in helping students to learn.

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DESCRIPTORS FOR THE EIGHT VARIABLES THAT CONVEY ENTHUSIASM

	1	2	3	4	5
	Low		Medium		High
1. Vocal Delivery	Monotone voice, minimum vocal inflection, little variations in speech, drones on & on & on, poor articulation.		Pleasant variations of pitch, volume & speed, good articulation.		Great & sudden changes from rapid excited speech to a whisper. Varied tilting, up-lifting intonation. Many changes in tone, pitch. Eye contact with total group.
2. Eyes	Looked dull or bored. Seldom opened eyes wide or raised eyebrows		Appeared interested. Some changes to lighting up, shining opening wide.		Characterized as dancing, snapping, shining, lighting up frequently opening wide, eyebrows raised. Eye contact with total group.
3. Gestures	Seldom moved arms out or outstretched toward person or object. Never used sweeping movements, kept arms at side or folded across body, appeared rigid.		Often pointed with hand, using total arm. Occasionally used sweeping motion using body, head, arms, hands & face. Steady pace of gesturing is maintained.		Quick & demonstrative movements of body, head, arms, hands & face, i.e., sweeping motions, clapping hands, head nodding rapidly.
4. Body Movements	Seldom moved from one spot or movement mainly from a sitting position to a standing position.		Moved freely, slowly & steadily.		Large body movements, swung around, walked rapidly, changed pace, unpredictable, energetic.

	1	2	3	4	5
	Low		Medium		High
5. Facial Expression	Appeared deadpan, doesn't denote feeling or frowned most of the time. Little smiling or a one-second lips upturned. Lips closed.		Agreeable, smiled frequently & longer plus at a regular rate. Looked pleased, happy, sad when obviously called for.		Appeared vibrant, demonstrative, showed surprise, awe, sadness, joy thoughtfulness, excitement. Total smile--mouth opened wide, quick & sudden changes in expression.
6. Word Selection	Mostly nouns, few descriptors/adjectives.		Some descriptors/ adjectives or repetition of the same ones.		High descriptive, many adjectives, great variety.
7. Acceptance of Ideas and Feelings	Little indication of acceptance or encouragement, may ignore student's feelings or ideas.		Accepts ideas & feelings, praises or clarifies, some variations in response but frequently repeats same ones.		Quick & ready to accept, praise, encourage or clarify, many variations in response. Vigorous nodding of head when agreeing.
8. Over-all Energy Level	Lethargic, appeared inactive, dull or sluggish.		Some variations from high to low in appearing energetic, demonstrative but mostly an even level is maintained.		Exuberant. Maintained high degree of energy & vitality, highly demonstrative, great & sudden changes in voice, tone, pitch; eye, head arm & body movements.

APPENDIX C

PEER TEACHING OBSERVER-RATING SHEET

() check the appropriate column:

Variables	Low	Medium	High	Comments
1. Vocal				
2. Eyes				
3. Gestures				
4. Movements				
5. Facial Expression				
6. Word Selection				
7. Acceptance of Ideas & Feelings				
8. Over-all Energy Level				

APPENDIX D
RATER'S TALLY SHEET
ON
TEACHER ENTHUSIASM

Name of Rater _____		Code No. of Tape _____									
Variables	Intervals (2 minutes)										
	1	2	3	4	5	6	7	8	9	10	
1. <u>Vocal</u>											
2. <u>Eyes</u>											
3. <u>Gestures</u>											
4. <u>Movements</u>											
5. <u>Facial Expression</u>											
6. <u>Word Selection</u>											
7. <u>Acceptance of Ideas and Feelings</u>											
8. <u>Overall Energy Level</u>											

Key: 5 high enthusiasm conveyed
 4
 3 medium
 2
 1 low enthusiasm conveyed

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